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Food Safety Educator

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■ Checking on Changes: Consumer Research

How have consumers—and their food safety knowledge and behavior—changed over the past several years?

Looking to answer that question, researchers working for the U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS) pulled together a compilation of consumer research conducted by a wide variety of sources from 1993 through 2000.

Their thought-provoking conclusion: consumers are more food safety savvy than ever before. But, despite knowledge and good intentions, consumers may still be making some significant mistakes when it comes to handling food safely.

The summary of consumer research was part of a larger research project conducted by the Research Triangle Institute (RTI) for USDA. The report is titled *Changes in Consumer Knowledge, Behavior, and Confidence*. It can be accessed at: <http://www.fsis.usda.gov/OA/research/research.htm>

According to Susan Conley, director of food safety education for FSIS, the RTI report is significant for two reasons. It tracks changes in consumer behavior over a period of years. And it summarizes consumer research conducted by a variety of organizations, including federal agencies, industry, and academe. Research methodologies included surveys,

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focus groups, and observational studies looking at how people actually handle food in the kitchen.

"The new report points out that consumers definitely know more now than they ever have before about foodborne pathogens and safe handling practices," Conley said.

The report shows that people are very concerned about handling food safely: 62 percent report that they make a great effort to choose safe food and handle it safely.

Consumers are also much more knowledgeable about the risks associated with microbes and foods like meat and poultry—and they understand that steps like thorough cooking can destroy harmful pathogens.

One study summarized in the

report noted that nearly 40 percent of consumers say they know a great deal about food safety, and another 44 percent report that they have some knowledge of food safety.

At the same time, Conley said, the report notes that there is room for improvement. In some surveys, consumers reported food handling behaviors that could be risky. And two observational studies show that despite good intentions, people are making some key mistakes.

Areas where there may be room for improvement:

- Many consumers may not be following some key safe handling prac-

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Educators!

If you can only go to one conference this year ... this is **THE** one. See article page 6.



tices: properly defrosting meat and poultry; safely reheating leftovers; and following the “when in doubt, throw it out” rule.

- Many consumers are eating hamburgers that are more thoroughly cooked because of safety concerns—but only 3 percent check their burgers with a food thermometer.

Checking with a food thermometer is the only way to be sure it is safely cooked.

- Overall use of food thermometers is low. In addition to not using food thermometers to check hamburgers and other small cuts of meat, only 22 percent of consumers report using them to check roasts or other large cuts of meat.

In an observational study, only 5 percent of participants used a food thermometer and most of them “did not know how to interpret the reading.” As a result, this study reports that 82 percent of the study participants undercooked the chicken entree, and 46 percent undercooked the meat loaf.

- Most consumers report that they wash their hands and properly clean cutting boards. However, in an observational study, only 45 percent of the participants always washed their hands before cooking and “nearly all participants cross-contaminated ready-to-eat food with raw meat during meal preparation.”

Other topics educators might add to their “to-do” list for educational campaigns:

- People don’t recognize “risk” groups:

When asked who might face “high risk” from foodborne illness, less than 6 percent of consumers correctly identified infants, young children, pregnant women, seniors, and people with weakened immune systems.

- A possible “disconnect” among parents of young children:

But the bottom line is—there is plenty of progress to report.

Main meal cooks in households with young children are less likely to properly clean cutting boards, properly defrost meat and poultry, safely reheat leftovers, and own a food thermometer.

This contradicts findings from focus groups with parents in which they report themselves to be more cautious about food preparation since having children.

It’s also significant for food safety educators because data from the Centers for Disease Control and Prevention indicate that nearly one-third of all foodborne illnesses occur in children under the age of 10. (See related article on page 4, “Keeping Kids Safe.”)

But the bottom line is—there is plenty of progress to report.

- Awareness of specific pathogens is increasing. Ninety-three percent of consumers are aware of *Salmonella* and 85 percent are aware of *E. coli*.

- People are confident in the safety of meat and poultry and attribute their confidence to increased awareness of safe handling practices, improved labeling (the “Safe Handling Instructions”), and prepackaging of meat and poultry.

- Most consumers (85 percent) follow the safe handling practice of regularly checking expiration dates and seals on product packaging when deciding whether to purchase or use a product.

As the report notes, checking expiration dates on perishable foods is particularly important to help prevent listeriosis as *Listeria monocytogenes* can grow at refrigerator tem-

peratures. Listeriosis is rare, but among the most serious foodborne illnesses in terms of deaths and hospitalizations.

- Who’s doing the best?

Check out grandma and grandpa. According to survey data from the Food and Drug Administration, seniors are more likely to wash their hands before cooking, properly clean cutting boards, safely reheat leftovers, and own a food thermometer.

More information coming:

In addition to summarizing current research with this report, RTI will be conducting additional focus groups with consumers throughout 2002 to further measure changes in knowledge and behavior.

RTI’s final report—to be published later this year—will also incorporate new data from the 2001 FDA/FSIS Food Safety Survey. Conducted by the Food and Drug Administration, this survey is significant because it tracks trends over time and draws information from a large national sampling of households.

Don’t forget Orlando!

All of this research, and more, will be reported at the national food safety educators’ conference *Thinking Globally, Working Locally*.

The conference will be held on September 18-20, 2002, in Orlando, Florida.

“The conference is a terrific opportunity for educators to learn about the latest research and to shape the direction of future work,” according to Conley.

To learn more about the conference, go to:

<http://www.fsis.usda.gov/Orlando2002>

(See related article, “If You Can Only Go to One, This is THE One,” page 6.) •

■ A Social Marketing Approach to Thermy™

The Food Safety and Inspection Service (FSIS) is examining how to better target and focus the campaign promoting the use of food thermometers.

"One of our new objectives is to reach parents of young children. To help reach this goal, we turned to social marketing experts," said Holly McPeak, coordinator of the FSIS thermometer campaign.

The Baldwin Group (TBG), experts in social marketing, applied the social marketing framework to the educational campaign. Their findings and recommendations are contained in their final report called *A Project to Apply Theories of Social Marketing to the Challenge of Food Thermometer Education*.

According to McPeak, TBG used a six-step model for social marketing described in the report as a "continuous process in which every marketing action is driven by the customer's needs."

The six steps include:

- listening,
- planning,

- structure,
- pretesting,
- implementing, and
- monitoring.

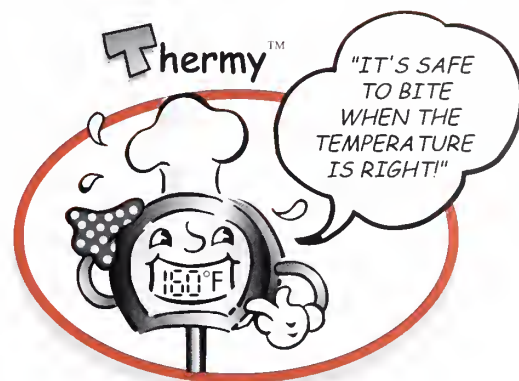
As the report notes, "Social marketing concepts have been in play since this program's inception. The campaign was well-based with focus group research, as well as pretesting. What we did was build on the progress already achieved and use our structure to help shape future directions."

To help identify the target audience of parents, TBG used a geographic market segmentation model.

"There are many different groups that could fall into the 'parents of young children' category. We wanted research to help us identify which sub-segment might be the best audience," according to the report's authors.

TBG's recommendation: target information to the "Boomburbs."

As McPeak explained, "These are people with more income, living in the suburbs. They are an ideal audience for a number of reasons. They



tend to be 'into technology' and influence others in their community as a result. In addition, they are 'risk-takers' and inclined to undercook food—inadvertently making their children high-risk for foodborne illness. If we can change their behavior, we can reduce illness plus help change the behavior of others."

"As we move into 2002 and beyond, this framework will serve us well, both in terms of targeting this audience as well as others," McPeak said.

To read the report, go to:
<http://www.fsis.usda.gov/oa/Therm/research.htm> •

What Parents Say...

In a series of six focus group sessions conducted for FSIS in 2001, parents gave their advice on food safety and the use of food thermometers.

Parents reviewed current Thermy™ educational materials and provided feedback that will be incorporated as the educational campaign continues.

During the focus group sessions, parents revealed that they were not aware of the importance of using a food thermometer. Some didn't realize that meat and poultry need to be cooked to a safe internal temperature to destroy harmful bacteria.

All participants were surprised to

hear of research showing that one in every four hamburgers turns brown before it's been cooked to a safe internal temperature. This led participants to start using a thermometer.

Participants also provided specific suggestions for revising current Thermy™ materials. Parents suggested messages they felt would encourage other parents to use food thermometers. Specifically:

- Use a food thermometer to keep your children healthy and safe.
- Use a food thermometer because it is the only way to know your food has reached a high enough temperature to destroy foodborne bacteria.
- Use a food thermometer to

enhance food quality.

"It's exciting for us—and very useful—to hear directly from parents about what works for them and what doesn't," McPeak said.

The focus group sessions were conducted by the Research Triangle Institute in three locations: Nashville, TN; Minneapolis, MN; and Portland, OR. A total of 49 parents took part in the research. To read a summary of the report titled *Thermometer Usage Messages and Delivery Mechanisms for Parents of Young Children*, go to:

<http://www.fsis.usda.gov/oa/research/research.htm> •

Keeping Kids Safe

Educators, did you know?

Studies confirm that one-third of all foodborne illnesses in this country occur in children under 10 years old. In fact, children under 1 are the age group most likely to get sick from *Salmonella*. (See "Children and Microbial Foodborne Illness," *Food Review*, May 2001:

<http://www.ers.usda.gov/publications/FoodReview/may2001>)

Parents, despite their best intentions, may not be handling food safely, according to consumer research. You can help change that picture. Encourage parents to check their food handling habits.

(Note: please feel free to copy or reprint this—and all—information contained in this newsletter. Information produced by the federal government is NOT copyrighted. It's there for you.)

"Kitchen Krazies" that can lead to foodborne illness for kids:

- **"Sure! That's done!":** You think you've thoroughly cooked your food, but guess what. It might not be true. For instance, most people figure their hamburgers are done when they turn brown in the middle. New studies show that one out of every four burgers turns brown before it's done. Why is that important? Undercooked hamburgers have been linked to serious illness from *E. coli* O157:H7.
- **"Here honey, eat this":** When you open a package of raw chicken, and then grab a raw carrot to give to your fussy toddler, you might also be passing along dangerous bacteria. *Salmonella* can be present on the raw chicken. When you touch it and then touch something else—even your

child's baby bottle—you risk spreading foodborne bacteria.

- **"Gotta run":** The chili's done, bowls have been wolfed down. Gotta run to soccer practice. So you let the chili cool on the stove top. The only problem is this: At room temperature, bacteria in food can double every 20 minutes. By the time you get back, your chili may have more in it than beans.

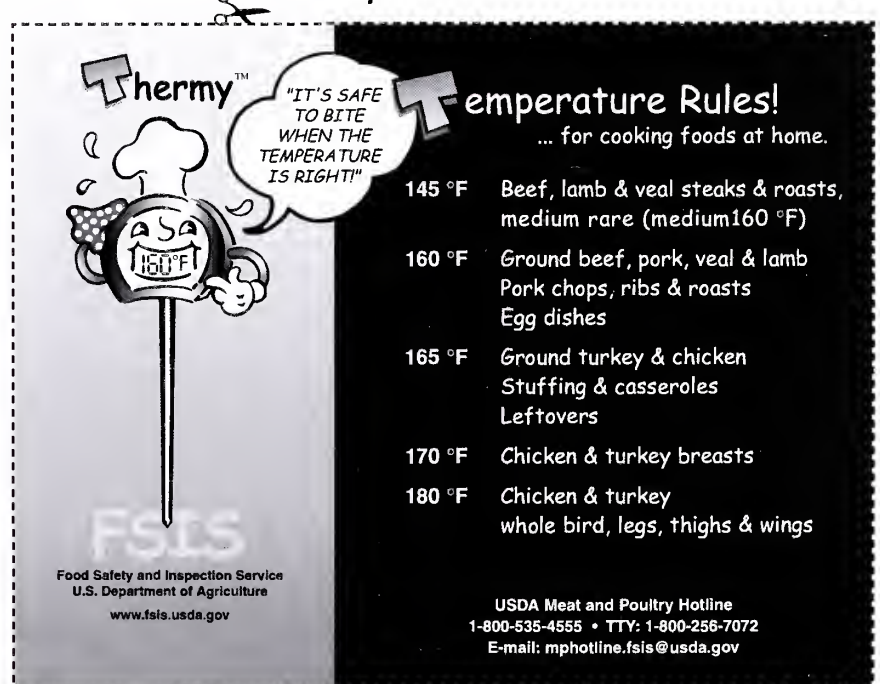
How to keep kids safe?

- **Thermym™!:** Use a food thermometer to check all the food you cook. Buy one if you need to, or just take it out of the drawer. With today's technology, using a food thermometer has never been easier. These aren't your grandma's thermometers—they're instant-read, digital, and dial. They are turning up in everything from grilling forks to built-in oven probes. But whether you have an old model or a new model, they'll help keep your food

safe. Clip and save the Thermym™ info at the end of this article.

- **Don't touch:** Make sure foods that might contain dangerous bacteria (like meat, poultry, seafood, and eggs) don't touch foods you're going to eat raw—like carrot sticks!
- **Let it flow:** Turn on the water, grab some soap, and wash when you are cooking. Wash your hands for 20 seconds before you start meals and wash anything that comes in contact with raw meat, poultry, seafood, or eggs—this means hands, counters, utensils. You name it, wash it.
- **Cool it:** Don't delay. Put cooked food in shallow dishes (to speed cooling) and place in the refrigerator. Thaw frozen foods in the refrigerator too. It may take longer, but it's safer. For more consumer food safety information, go to:
<http://www.fightbac.org>
To download more information from Thermym™, go to:
<http://www.fsis.usda.gov/thermy> •

Clip and Save!



The graphic features a cartoon thermometer character with a smiling face, wearing a chef's hat and a bow tie. It is holding a speech bubble that says "IT'S SAFE TO BITE WHEN THE TEMPERATURE IS RIGHT!". The thermometer's dial shows 160°F. The background is dark with white text. At the bottom, it says "FSIS Food Safety and Inspection Service U.S. Department of Agriculture www.fsis.usda.gov".

Thermym™ Temperature Rules!

... for cooking foods at home.

145 °F	Beef, lamb & veal steaks & roasts, medium rare (medium 160 °F)
160 °F	Ground beef, pork, veal & lamb Pork chops, ribs & roasts Egg dishes
165 °F	Ground turkey & chicken Stuffing & casseroles Leftovers
170 °F	Chicken & turkey breasts
180 °F	Chicken & turkey whole bird, legs, thighs & wings

USDA Meat and Poultry Hotline
1-800-535-4555 • TTY: 1-800-256-7072
E-mail: mp hotline.fsis@usda.gov

■ More Safe Food Handling Information in Spanish! *Nosotros Hablamos Español!*

The U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS) is continuing to break new ground providing safe food handling information in Spanish.

Newly available: A new publication in Spanish, a Spanish-speaking expert on the USDA Meat and Poultry Hotline, and prerecorded safe food handling telephone messages in Spanish.

■ USDA Meat and Poultry Hotline: 1-800/535-4555

The USDA Meat and Poultry Hotline is now providing safe food handling information in Spanish!

According to Hotline Manager Bessie Berry, "we recognize that we have many special populations within the United States. Providing information in Spanish is just one of the many efforts we make to reach diverse groups."

Spanish-speaking people calling the Hotline now have the option of receiving recorded messages in Spanish, or speaking with a Spanish-speaking food safety expert.

Recorded messages include a wide variety of topics, including the basics of safe food handling.

To access the recorded messages, or to speak with a food safety expert in Spanish, just call 1-800/535-4555.

■ Cooking for a Large Group? Check Out This New Spanish Publication

Hot off the press, one of the most popular publications ever produced by FSIS is now available in Spanish: *Cooking for Groups—a Volunteer's Guide to Food Safety* (*Cocinando para Grupos—Guía de Seguridad Alimentaria para Voluntarios*).

This 42-page publication is specifically designed to help people who are cooking for large gatherings, such as church suppers, festivals, or street fairs.

According to Robyn Sadagursky of the USDA Meat and Poultry Hotline, "We developed this publication because we recognize that people who are great cooks at home don't necessarily know how to safely fix large quantities of food.

"There's a lot of things that need to be done differently when you're cooking for large groups."

Special areas of concern include safely transporting large quantities of food, serving the food safely, and handling large quantities of leftovers.

This publication tells you how to do all of that and more. It has food storage and cooking temperature charts.

More than 100,000 copies of the publication in Spanish are available.

According to Susan Conley, director of food safety education for FSIS, "This has been such a valuable publication that we made it a priority to have it available in Spanish."



People interested in copies can e-mail their request to:
fsis.outreach@usda.gov

To access English or Spanish versions on the Web, go to:
<http://www.fsis.usda.gov/oa/pubs/cfg/cfg.htm> •

More Food Safety Info Available

To access a variety of food safety publications in languages other than English, go to:
<http://www.fsis.usda.gov/oa/pubs/languages.htm>

■ If You Can Only Go to One, This is THE One

It's true. If there's only room in the budget for you to attend one conference this year, mark this one down as the one to go to. The date: September 18-20, 2002. The place: Orlando, Florida.

Thinking Globally, Working Locally: A Conference on Food Safety Education is the first national conference of food safety educators in more than 5 years.

To be effective, communicators need to be able to blend their knowledge of "global" issues with their "local" knowledge of the unique communities they serve.

This conference "brings it all together."

The conference is cosponsored by leading federal agencies in cooperation with The Partnership for Food Safety Education.

The first part of the conference—*Thinking Globally*—will present the big picture of food safety issues, including:

- global and national trends in food safety, consumer knowledge and behavior,
- new observational studies of consumers' safe food handling, and
- the latest information from food-borne illness surveillance systems

concerning foods and behaviors that contribute to illness.

The second part of the conference—*Working Locally*—will showcase how educators and communicators from around the nation (and the world!) are discovering success.

As conference participants will see, today's educators are busy using new ideas, new tools, and new technologies. They are:

- Using concepts like social marketing—a market-based tool to help educators understand how to segment audiences, plan for long-term education initiatives, and change behaviors.
- Using partnerships—educators have proven this works. It builds agendas, teamwork, and funding.
- Exploring new technologies and techniques—from multimedia curricula to interactive Web applications, animated videos, classroom skits, and even old-fashioned one-on-one interventions. If it's right, we use it.
- Evaluating, refining, and measuring results. We are getting our messages across.

The conference will be thought-provoking, eye-opening, and energizing.

Collectively, we are changing our communities—and the world. •



Check out the Web site: *Thinking Globally, Working Locally—A Conference on Food Safety Education*:

<http://www.fsis.usda.gov/Orlando2002>

Conference sponsors:

U.S. Department of Agriculture
Food Safety and Inspection Service
Cooperative State Research,
Education and Extension
Service

U.S. Department of Health and Human Services
Food and Drug Administration
Centers for Disease Control and
Prevention

In cooperation with the
Partnership for Food Safety Education

■ New Food Allergy Training for Foodservice

More than 4 million Americans suffer from some type of food allergy—allergies that can sometimes cause serious illness and death.

While consumers can keep themselves safe when eating at home, eating out can be risky.

Hidden ingredients, or even traces of allergens transferred from

kitchen equipment or serving utensils can cause serious problems.

To help prevent those problems, the Food Allergy and Anaphylaxis Network (FAAN), in cooperation with the National Restaurant Association, has produced a training program for both the "front of the house" and the "back of the house"—waiters and waitresses as well as food preparers.

The program includes a video (in English and Spanish), written materi-

als, poster, server cards, and "how to read a label" information.

The material covers the importance of taking food allergies seriously and strategies for avoiding mistakes, including cross-contamination between foods that cause allergies and other food.

The basic program costs \$99.95. To order, call the FAAN at 1/800-929-4040 or order online at their Web site: <http://www.foodallergy.org/whatsnew.html#restaurant> •

■ For Foodservice: The New Food Code

Newly revised, the 2001 *Food Code* is available online:

<http://www.cfsan.fda.gov/~dms/fc01-int.html>

The *Food Code* is a collaborative effort between the Food and Drug Administration, the Centers for Disease Control and Prevention, and the U.S. Department of Agriculture's Food Safety and Inspection Service.

To date, more than 30 states have adopted one of four editions of the *Food Code*. The code is a reference document for regulatory agencies overseeing food safety in restaurants, retail food stores and a wide variety of other institutions—including nursing homes and child care centers.

The *Food Code* is one of a number of collaborative efforts among federal agencies to educate foodservice workers about food safety principles. Two other key efforts include:

- The USDA/FDA Foodborne Illness Education Information Center: <http://www.nal.usda.gov/fnic/foodborne>

The Center houses a database of foodservice training materials including videos, software course books, posters, and brochures.

- The Food Safety Training and Education Alliance (FSTEa): <http://www.fstea.org>

FSTEa is an alliance of government, industry, and academicians working to improve food safety training at the retail level.

The Web site offers training materials and links to national and local rules and regulations, directories, and information on food safety funding. •

From the Centers for Disease Control and Prevention

■ Once Again: CDC Issues Sprouts Warning

After investigating an outbreak involving a rare form of *Salmonella* in 2001, the Centers for Disease Control and Prevention (CDC) has once again issued a warning on the risks of foodborne illness associated with raw sprouts: *Morbidity and Mortality Weekly Report*, January 11, 2002/ 51(01); 7-9; <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5101a3.htm>

In the article, CDC notes that despite public health advisories about the risks associated with eating raw sprouts, people at high risk for illness continue to eat them.

People who may face increased risk of foodborne illness include those over 65, very young children, and people with weakened immune systems.

In the 2001 outbreak, two of the

patients were immunocompromised and one was a young child.

While investigating the outbreak involving more than two dozen people in four western states, CDC researchers noted that some consumers continue to see sprouts as a "healthy" food item.

However, since 1995, 15 outbreaks of *Salmonella* spp. and two outbreaks of *E. coli* O157:H7 associated with sprouts have been reported to CDC.

What's the problem with sprouts? They are incubated and grown in a moist, humid environment, which can be a perfect breeding ground for bacteria.

The safest bet: cook 'em or don't eat 'em—especially if you're high-risk for foodborne illness. •

■ New Bioterrorism Web Site Now Online

CDC has redesigned its bioterrorism Web site—<http://www.bt.cdc.gov>—offering new and updated information for health professionals and the public.

The redesigned Web site, which focuses on public health preparedness and emergency response, is the official federal site for medical, laboratory, and public health professionals to reference when providing information to the public and for updates on protocols related to health threats such as anthrax.

CDC redesigned the site in response to overwhelming demand from the public and professionals for credible information during the anthrax crisis.

The site offers easy-to-use categories requested by key audiences, including clinicians. •

■ Hot Links for Educators

Educators, this CDC Web page is one of the most useful you'll ever find: <http://www.cdc.gov/foodsafety/edu.htm>

The page provides direct links to educational resources from a variety of federal agencies, state agencies, and associations.

You'll find links to the newest food safety education publications. You'll also be able to access key training resources including:

- Epidemiological information and software;
- Foodborne disease outbreak investigation case studies;
- Public Health Training Network; and the
- USDA/FDA Foodborne Illness Education Information Center. •

■ How To Keep in Touch With Food Safety Education Information

The Food Safety Educator

This free quarterly newsletter reports on new food safety educational programs and materials as well as emerging science concerning food safety risks. It is distributed to nearly 10,000 educators throughout the country, including public health offices, extension educators, industry, and consumer groups.

To subscribe: provide your full name, organization name, & mailing address.

- Write to: USDA/FSIS/Food Safety Education, Room 2944-South Building, 1400 Independence Ave., SW, Washington, DC 20250-3700, or
- Fax your request to: (202) 720-9063, or
- E-mail your request to: fsis.outreach@usda.gov
- The newsletter is also available on the FSIS Web site: <http://www.fsis.usda.gov/oa/educator/educator.htm>



The *Food Safety Educator* is produced by the Food Safety Education Staff, Food Safety and Inspection Service, U.S. Department of Agriculture

Please feel free to e-mail comments or suggestions—fsis.outreach@usda.gov

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On the Web

- USDA/Food Safety and Inspection Service
<http://www.fsis.usda.gov>
- Thermy™ Web page
<http://www.fsis.usda.gov/thermy>
- FightBAC!™
<http://www.fightbac.org>
- Gateway to Government Food Safety Information
<http://www.foodsafety.gov>

- FDA/Center for Food Safety and Applied Nutrition
<http://www.cfsan.fda.gov>
- USDA/FDA Foodborne Illness Education Information Center
<http://www.nal.usda.gov/fnic/foodborne>
- Centers for Disease Control and Prevention
<http://www.cdc.gov/foodsafety>

Other Resources

EdNet—a monthly electronic newsletter for food safety educators. To subscribe, send an e-mail message to: Listserv@foodsafety.gov. Send the message: Subscribe EDNET-L firstname lastname

foodsafety—an online electronic discussion group. To join, go to: <http://www.nal.usda.gov/fnic/foodborne>

Toll-free—USDA's Meat and Poultry Hotline 1-800-535-4555, for the hearing-impaired (TTY) 1-800-256-7072

Food and Drug Administration's Outreach and Information Center 1-888-SAFEFOOD